

## IN THE CLAIMS

Following are the claims as are currently pending for consideration:

1-7. (Canceled)

8. (Currently Amended)     ~~The optical device driver of Claim 7~~

An optical device driver comprising:

a buffered level shifter circuit to shift an input voltage to a first voltage level or to a second voltage level, wherein said buffered level shifter circuit is tunable through  $k+1$  control signals to shift an input of the ~~laser~~ optical device driver to a controlled voltage level at a controlled rate and with adjustable impedance responsive to a transition of a said digital voltage sequence;

a modulation circuit to generate a first current signal of a modulation mode responsive to the input voltage of the first voltage level and to generate the first current signal of a bias mode responsive to the input voltage of the second voltage level;

a bias control circuit to adjust the bias mode of said first current signal through one or more bias control inputs; and

a modulation control circuit to adjust the modulation mode of said first current signal through one or more modulation control inputs.

9. (Currently Amended)     The optical device driver of Claim ~~[[7]]~~ 8 said modulation circuit comprising:

a pMOSFET, a first nMOSFET and a second nMOSFET, the modulation circuit to cause the first current signal of the modulation mode to flow from a laser power source through the first nMOSFET and second nMOSFET responsive to the input of the laser driver being shifted to the first voltage level, and to causes the current signal of the bias mode to flow from the laser power source through the bias control when another current flows from a second power source through the pMOSFET responsive to the input of the laser driver being shifted to the second voltage level.

10. (Previously Presented) The optical device driver of Claim 9 wherein an input gate of a third nMOSFET is coupled with the second power source to reduce an overshoot of the first current signal.

11. (Currently Amended) ~~The optical device driver of Claim 7 further comprising:~~

An optical device driver comprising:

a buffered level shifter circuit to shift an input voltage to a first voltage level or to a second voltage level;

a modulation circuit to generate a first current signal of a modulation mode responsive to the input voltage of the first voltage level and to generate the first current signal of a bias mode responsive to the input voltage of the second voltage level;

a bias control circuit to adjust the bias mode of said first current signal through one or more bias control inputs;

a modulation control circuit to adjust the modulation mode of said first current

signal through one or more modulation control inputs; and

a plurality of capacitors coupled with the bias control to reduce a series resistance in comparison to a termination resistance.

12. (Currently Amended) The optical device driver of Claim ~~[[7]]~~ 11 wherein the modulation circuit is a CMOS circuit.

13. (Original) The optical device driver of Claim 12 further comprising:  
a VCSEL laser diode.

14. (Canceled)

15. (Currently Amended) ~~The optical signaling system of Claim 14~~

An optical signaling system comprising:

a digital electronic interface to transmit a digital voltage input sequence;

a buffered level shifter circuit to shift an input voltage to a first voltage level or to a second voltage level responsive to the digital voltage input sequence, wherein said buffered level shifter circuit is tunable through  $k+1$  control signals to shift an input of  
a the laser driver to a controlled voltage level at a controlled rate and with adjustable impedance responsive to a transition of said digital voltage input sequence;

a modulation circuit to generate a first current signal of a modulation mode responsive to the input voltage of the first voltage level and to generate the first current signal of a bias mode responsive to the input voltage of the second voltage

level;

a bias control circuit to adjust the bias mode of said first current signal through one or more bias control inputs;

a modulation control circuit to adjust the modulation mode of said first current signal through one or more modulation control inputs; and

a laser to generate an optical signal responsive to the first current signal.

16. (Currently Amended) The optical signaling system of Claim [[14]] 15, said modulation circuit further comprising:

a pMOSFET, a first nMOSFET and a second nMOSFET, the modulation circuit to cause the first current signal in the modulation mode to flow between the laser, the first nMOSFET and the second nMOSFET responsive to the input of the laser driver being shifted to a first voltage level, and to causes the first current signal in the bias mode to flow between the laser and the bias control when another current flows through the pMOSFET responsive to the input of the laser driver being shifted to a second voltage level.

17. (Previously Presented) The optical signaling system of Claim 16 wherein an input gate of a third nMOSFET is coupled with a power source of the pMOSFET to reduce an overshoot of the first current signal.

18. (Currently Amended) The optical signaling system of Claim [[14]] 15, wherein the laser is a VCSEL diode.

19. (Currently Amended) The optical signaling system of Claim [[14]] 15, wherein adjusting the modulation mode of the current signal is accomplished by setting one or more inputs of the modulation control.

20. (Original) The optical signaling system of Claim 19 wherein adjusting the bias mode of the current signal is accomplished by setting one or more inputs of the bias control.

21. (Currently Amended) ~~The optical signaling system of Claim 14 further comprising:~~

An optical signaling system comprising:

a digital electronic interface to transmit a digital voltage input sequence;

a buffered level shifter circuit to shift an input voltage to a first voltage level or to a second voltage level responsive to the digital voltage input sequence;

a modulation circuit to generate a first current signal of a modulation mode responsive to the input voltage of the first voltage level and to generate the first current signal of a bias mode responsive to the input voltage of the second voltage level;

a bias control circuit to adjust the bias mode of said first current signal through one or more bias control inputs;

a modulation control circuit to adjust the modulation mode of said first current signal through one or more modulation control inputs;

a laser to generate an optical signal responsive to the first current signal; and

a plurality of capacitors coupled with the bias control to reduce a series resistance in comparison to a termination resistance.

22. (New) The optical signaling system of Claim 21 wherein said buffered level shifter circuit is tunable through  $k+1$  control signals to shift an input of the laser driver to a controlled voltage level at a controlled rate and with adjustable impedance responsive to a transition of said digital voltage sequence.

23. (New) The optical signaling system of Claim 21, said modulation circuit further comprising:

a pMOSFET, a first nMOSFET and a second nMOSFET, the modulation circuit to cause the first current signal in the modulation mode to flow between the laser, the first nMOSFET and the second nMOSFET responsive to the input of the laser driver being shifted to a first voltage level, and to causes the first current signal in the bias mode to flow between the laser and the bias control when another current flows through the pMOSFET responsive to the input of the laser driver being shifted to a second voltage level.

24. (New) The optical signaling system of Claim 23 wherein an input gate of a third nMOSFET is coupled with a power source of the pMOSFET to reduce an overshoot of the first current signal.

25. (New) The optical signaling system of Claim 21 wherein the laser is a VCSEL diode.

26. (New) The optical signaling system of Claim 21 wherein adjusting the modulation mode of the current signal is accomplished by setting one or more inputs of the modulation control.

27. (New) The optical signaling system of Claim 21 wherein adjusting the bias mode of the current signal is accomplished by setting one or more inputs of the bias control.